



**IN THE  
UNITED STATES  
PATENT AND TRADEMARK  
OFFICE**

<i>Application Number</i>	09/782,255
<i>Filing Date</i>	February 14, 2001
<i>First Named Inventor</i>	Bruce M. HELD
<i>Group Art Unit</i>	1636
<i>Examiner Name</i>	N. VOGEL
<i>Attorney Docket Number</i>	1205-009

*Title of the Invention: PROMOTER AND CONSTRUCT FOR PLANT TRANSFORMATION*

**DECLARATION UNDER 37 C.F.R. '1.132**

Commissioner for Patents  
P O Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

I, Herbert Martin Wilson, of 1915 Stevenson Drive, Ames, Iowa 50010, hereby declare that:

I graduated from University of Leicester (United Kingdom) in 1975 with a Ph.D. in Plant Cell Biology.

I was employed by Pfizer, Inc., from 1982 to 1986, where I was a senior scientist in the Plant Genetics Department.

I was employed by ICI Seeds, Inc., from 1986 through 1994 where I was Cell Biology Project Leader.

Since 1995, I have been employed by Stine Seed Company as Director of Stine Biotechnology.

I am one of the co-inventors of the invention described and claimed in the above-identified application and am familiar with the Office Action dated April 26, 2005.

The Examiner has rejected claims 43-45 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement in that the claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time the application was filed, had possession of the invention. Specifically, the Examiner has rejected claims 43-45 in that the recitation "aligning the selected segments based on homology with the template promoter to derive a first synthetic promoter having

between about 60% to about 90% homology over the entire length of the template promoter" is not a sufficient description for the above-mentioned limitations in the specification as filed. Applicant submits that the synthetic homolog to the figwort mosaic virus (fmv) promoter, was produced using the method of the present invention and having a 77.1% identity to the template. This is an unexpected result for less than a 100% identity to the template. This synthetic promoter, fmvhom, was linked to the bar gene and then introduced into corn embryos via *Agrobacterium*-mediated transformation. The protocol was as described in U.S. Patent No. 6,420,630. From 153 immature embryos a total of 24 events were generated on medium containing 1 mg/l bialaphos. Plants were regenerated from each of these events and shown to express the bar gene. These results establish that the fmv homolog, fmvhom, can act as a constitutive promoter in corn.

Data below: fmvhom homology to fmv. 77.1% identity in 560 base pair overlap

	10	20	30	40	50	60
fmv.seq	TCAAAATATTTAGCAGCATTCCAGATTGGGTTCAATCAACAAGGTACGAGCCATATCACT					
fmvhom.seq	TATCTCCAGTACAGATCGCCTTCAACCAACAAGGTACGAACCCCTCTCACC					
	10	20	30	40	50	
	70	80	90	100	110	120
fmv.seq	TTATTCAAATTGGTATCGCCAAAACCAAGAAGGAACTCCCATCCTCAAAGGTTTGTAAGG					
fmvhom.seq	TTCTTCAAAGGAAATTCCCAAACATAGATGGAACCTACCATTCGCAACTGCTGAAAGT					
	60	70	80	90	100	110
	130	140	150	160	170	180
fmv.seq	AAGAATTCTCAGTCCAAAGCCTCAACAAGGTACAGGTACAGAGTCTCCAAACCATTAGCC					
fmvhom.seq	CAGAATCCGCTGTCCAAAGCCTGAAGAAGTTCACGGTACAGAGTTTGCTAACCCTAGCA					
	120	130	140	150	160	170
	190	200	210	220	230	240
fmv.seq	AAAAGCTACAGGAGATCAATGAAGAATCTTCAATCAAAGTAACTACTGTTCCAGCACAT					
fmvhom.seq	AGATGCTACAAGAGAAGAATGAAGGATCTTCAAGCAAAGTAACCTGCTGTTCCAGAAGAC					
	180	190	200	210	220	230
	250	260	270	280	290	300
fmv.seq	GCATCATGGTCAGTAAGTTTCAGAAAAAGACATCCACCGAAGACTTAAAGTTAGTGGGCA					
fmvhom.seq	TCATCATGGTCAGAAAGTAACAGAAAAAGTCCACCGAGGACGTAGAGTTTGTGAGGG					
	240	250	260	270	280	290
	310	320	330	340	350	360
fmv.seq	TCTTTGAAAGTAATCTTGTCACATCGAGCAGCTGGCTTGTGGGGACCAGACAAAAAAGG					

## Application No. 09/782,255

Page 3

```

fmvhom.seq  TCTTTAAAGTAATCCTTGTACCATCGGTGCGCTGGCATATTTGGACCAGACAAGAAAAG
              300      310      320      330      340      350

              370      380      390      400      410      420
fmv.seq      AATGGTGCAGAATTGTTAGGCGCACCTACCAAAGCATCTTGCCTTTATTGCAAAGATA
              ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
fmvhom.seq   GATGGTGCAGAACCTTTAGGTGCACATCCAAAAGAATCTTGGACTTTACTGCGAAGATA
              360      370      380      390      400      410

              430      440      450      460      470      480
fmv.seq      AAGCAGATTCTCTAGTACAAGTGGGGAACAAAATAACGTGGAAAAGAGCTGTCTCTGACA
              ||| |||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
fmvhom.seq   AAGGAGATCGCTCTATTAAAGGGGGGAGAAAATAACATGGAAAAAAGCTATCTCTGACA
              420      430      440      450      460      470

              490      500      510      520      530      540
fmv.seq      GCCCACTCACTAATGCGTATGACGAACGCAGTGACGACCACAAAAGAATTCCCTCTATAT
              ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
fmvhom.seq   GCCCAGCTTCGAGTGCGTATGACGAACGCAGTGACGACCATAGAAGGATGCTCTATATAT
              480      490      500      510      520      530

              550      560      570
fmv.seq      AAGAAGGCATTTCATTCCCATTTGAAGGATC
              | ||||| ||||| ||||| |||||
fmvhom.seq   ACAGAGGCATTTATTCCCATTTACAAGGAGC
              540      550      560

```

Additionally, Applicant submits that the synthetic homolog to the 35S Cauliflower Mosaic Virus promoter, CaMV, was produced using the method of the present invention and having a 79.2% identity to the template. This is an unexpected result for less than a 100% identity to the template. This synthetic promoter, MuB, was linked to the bar gene and then introduced into corn embryos via *Agrobacterium*-mediated transformation. The protocol was as described in U.S. Patent No. 6,420,630. From 174 immature embryos a total of 13 events were generated on medium containing 1 mg/l bialaphos. Plants were regenerated from these events and shown to express the bar gene. These results establish that the 35S homolog, MuB has been shown to act as a constitutive promoter in corn.

Data below: MuB homology to 35S 79.2% identity in 351 bp overlap

```

mub          10      20      30      40      50      60
TCAAATTTTCTACAAAGGATCATATCGGGCATGTTTCATGGAACCGTTTGGCCACCAAT
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
35S          10      20      30      40      50      60
TGAGACTTTTCAACAAAGGGTAATATCGGGAAACCTCCTCGGATTCCACTGCCAGCTAT

mub          70      80      90      100     110     120
TTGCAACTTTCATCAAGAGGACAGTAGAAAATTAAGTTGGCACCTACTAATGCCACAAATG
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

```



Application No. 09/782,255

Date: 6/22/05



Herbert Martin Wilson, Ph.D.

Page 5